ATTORNEY DOCKET NO
11321/P060US

PATENT
U.S. Ser. No. 10/738,459



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Tour et al.
Serial No.: 10/738,459
Filed: December 17, 2003
Title: USE OF MICROWAVES TO CROSSLINK CARBON NANOTUBES
Confirm No.: 9579
Art Unit: 1753
Examiner: Edna Wong

Mail Stop: Petitions
Commissioner For Patents
P. O. Box 1450
Alexandria, VA 22313-1450

**PETITION UNDER 37 CFR 1.181**

Dear Sir:

This petition disputes the finality of the Office Action having a mailing date of March 14, 2007, with a three-month shortened statutory period for response set to expire on June 14, 2007.

Remarks begin on page 2 of this petition.

03-04-07

PAC

DFW



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PTO/SB/21 (04-07)
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# TRANSMITTAL FORM

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Total Number of Pages in This Submission

| | |
|---|---|
| Application Number | 10/738,459 |
| Filing Date | December 17, 2003 |
| First Named Inventor | Tour |
| Art Unit | 1753 |
| Examiner Name | Edna Wong |
| Attorney Docket Number | 11321/P060US |

## ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☑ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  Acknowledgement Postcard

Remarks

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | | | |
|---|---|---|---|
| Firm Name | Winstead PC | | |
| Signature | | | |
| Printed name | Robert C. Shaddox | | |
| Date | | Reg. No. | 34,011 |

## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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**Remarks/Arguments**

The Examiner has issued a new grounds of rejection based on newly uncovered prior art and made the action final. Applicant, however, asserts that the office action should not be final because no change of scope and no new claim elements were introduced by way of amendment in response to the non-final Office Action of September 12, 2006. Furthermore, a new search was not necessitated by amendments made to the claims. As stated in the MPEP 706.07(a):

> "...second or any subsequent action on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement..."

Thus, we believe that the Examiner has erroneously issued "final" status in the current final Office Action dated March 14, 2007.

The amended claims 1, 8, and 19 as presented in the Office Action response are shown below:

1. (Currently Amended) A method of crosslinking carbon nanotubes comprising: ~~a step of~~

(1) providing carbon nanotubes; and

(2) irradiating said carbon nanotubes with microwaves to yield a plurality of crosslinked carbon nanotubes.

8. (Currently amended) A method of crosslinking carbon nanotubes comprising: ~~a step of~~

(1) providing carbon nanotubes; and

(2) irradiating said carbon nanotubes with microwaves to yield a plurality of crosslinked carbon nanotubes[[,]];

wherein crosslinking is generated between the sidewalls of adjacent carbon nanotubes.

19. (Currently amended) A method of crosslinking single-wall carbon nanotubes comprising: ~~a step of~~

(1) providing single-wall carbon nanotubes; and

(2) irradiating said single-wall carbon nanotubes with microwaves to yield a plurality of crosslinked single-wall carbon nanotubes[[,]];

wherein crosslinking is generated between the sidewalls of adjacent single-wall carbon nanotubes; and

wherein the step of irradiating is carried out in an inert environment selected from the group consisting of ultra-high vacuum, high vacuum, inert gases, and combinations thereof.

A telephone interview discussing the finality of the action was conducted with the Examiner on April 23, 2007 in which the Examiner stated that (1) the scope of the claims was changed, more specifically narrowed, by the limitation of "providing" the carbon nanotubes. That is to say, the Examiner held that the originally presented claims did not require the initial presence of the carbon nanotubes and that by "providing" them, the scope of the claim was narrowed to that subset of literature that begins with the carbon nanotubes, as opposed to the literature subset where nanotubes are not present at the outset of the carbon nanotube crosslinking. Thus, the Examiner stated (2) that it was necessary to do another search.

Applicant respectfully disagrees on both counts. (1) The scope of the claims was not changed. It should be emphasized that the specification is clear throughout, that one begins with the already manufactured carbon nanotubes. Thus, interpreting the claims in light of the specification should have led the Examiner to conduct a search of literature pertaining to crosslinking existing carbon nanotubes. Applicant submits that the duty of the Examiner is to give the claims the broadest interpretation of the claims in light of the specification as stated in the MPEP 2111:

> During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the **specification**."

>The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard:

The Patent and Trademark Office ("PTO") determines the **scope of claims** in patent applications **not solely on the basis of the claim language**, but upon giving claims their broadest reasonable construction "**in light of the specification** as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the **specification** and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1).

For these reasons, applicant also disputes (2) the necessity of conducting a new search by the Examiner. Nowhere in the specification is there a reference to crosslinking carbon nanotubes that begins with anything other than the carbon nanotubes themselves.

In light of the foregoing and the fact that the Examiner has introduced new rejections based on new prior art, Applicant respectfully requests withdrawal of the finality of the Office Action dated March 14, 2007.

Applicant believes no outstanding fees are due by way of this petition. However, the Director is hereby authorized to charge any fees or credit any overpayment to Deposit Account Number 23-2426 of WINSTEAD (referencing 11321/P060US).

If the Examiner or Director has any questions or comments concerning the present application in general, they are invited to call the undersigned at (713) 650-2764.

Dated:

5/2/7

Respectfully submitted,

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ATTORNEY FOR APPLICANTS

**CERTIFICATE OF MAILING UNDER 37 C. F. R. § 1.10**

I hereby certify that the attached *Petition Disputing the Finality of Office Action* is being deposited with the USPS, as "Express Mail – Post Office to Addressee", mailing label number EL 812636003US, addressed to Mail Stop Petitions, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date below.

5/2/07
Date

Signature

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11321-P060US 4/24/2007